

## THE OVERLAND JOURNEY OF THOMAS NUTTALL

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At a very early date, near the beginning of the nineteenth century, Independence, Missouri, was a frontier post. Here was the starting place for the wagon trains for Santa Fe; here were plainsmen and hunters returning to the Rocky Mountains; here were trappers and fur-traders from the upper Missouri; and here in April, 1834, foregathered the men of the Wyeth Expedition bound for Oregon and notable to everyone interested in natural history, because two of the party were the naturalists Thomas Nuttall and John K. Townsend. Wyeth's company joined the annual fur-trading caravan which began its march from Independence to the far West on April 28, 1834.

Along the Platte River the party passed through a deep ravine and here we have the first note on Nuttall after leaving Independence. Says Townsend in his narrative: "The road was very uneven and difficult, winding amongst innumerable mounds six to eight feet in height, the space between them frequently so narrow as scarcely to admit our horses, and some of the men rode for upwards of a mile kneeling upon their saddles. These mounds were of a hard yellow clay, without a particle of rock of any kind, and along their bases, and in the narrow passages flowers of every hue were growing. It was a most enchanting sight; even the men noticed it, and more than one of our matter-of-fact people exclaimed *beautiful, beautiful!* Mr. Nuttall was here in his glory. He rode on ahead of the company, and cleared the passage with a trembling and eager hand, looking anxiously back at the approaching party, as though he feared it would come ere he had finished, and tread his lovely prizes under foot."<sup>1</sup> Thence the caravan proceeded by many days' journey to the Green River rendezvous of the Rocky Mountain men and on to the Portneuf branch of the Snake River, the site of Fort Hall. From this place a hunting party was sent out for a supply of game. Returning after a ten days' absence, to the camp, Townsend found Nuttall so extremely thin as to be scarcely recognizable and rallied him on his emaciated condition. Nuttall retorted that he, Townsend, would have been as thin had he lived for two weeks on nothing but short rations of tough old Ephraim. Old Ephraim was *Ursus horribilis*, the Grizzly Bear.

Leaving Fort Hall, Wyeth's party, consisting of thirty men and one hundred and sixteen horses, crossed the Snake River and headed for Fort Walla-walla on the Columbia. At Camas Prairie, in the present Elmore County, Idaho, the famished party ate the roots of *Camassia esculenta* boiled, and also those of *Eulophus ambiguus*. In the Blue Mountains Townsend made a

<sup>1</sup> Thwaites, Early Western Travels, 21: 179.

meal of rose-buds, only to find on returning to camp, that Nuttall and Captain Thing were picking the bones of a bird which they had cooked in his absence. It proved to be one of Townsend's specimens, an owl which he had killed that morning. So, says Townsend resignedly, "the bird of wisdom lost the immortality which it might otherwise have acquired."<sup>2</sup> On the journey down the Columbia River the canoes shipped much water in a storm and it was necessary to lay by on the bank. "Mr. Nuttall's large and beautiful collection of new and rare plants," says Townsend, "was considerably injured by the wetting it received; he has been constantly engaged since we landed yesterday, in opening and drying them. In this task he exhibits a degree of patience and perseverance which is truly astonishing; sitting on the ground and steaming over the enormous fire, for hours together, drying the papers, and re-arranging the whole collection, specimen by specimen, while the great drops of perspiration roll unheeded from his brow. Throughout the whole of our long journey, I have constantly had to admire the ardor and perfect indefatigability with which he has devoted himself to the grand object of his tour. No difficulty, no danger, no fatigue has ever daunted him, and he finds his rich reward in the addition of nearly a thousand new species of American plants, which he has been enabled to make to the already teeming flora of our vast continent."<sup>3</sup>

Completing a toilsome and hazardous journey, the travelers arrived on September 16, 1834, at Fort Vancouver where they experienced the noble hospitality of Dr. John McLoughlin, the Hudson Bay Company's factor. After a trip into the lower Willamette River with Captain Wyeth, Nuttall and Townsend sailed December 11, 1834, on the Brig, *May Dacre*, for a visit to the Hawaiian Islands and came back the next year to the Columbia River, arriving April 16, 1835.

Nuttall spent the entire summer botanizing on the Columbia, making one trip to the Dalles. He now wished to go to California, but the way to that Mexican province was somewhat roundabout. Trading vessels plied between the Hawaiian Islands and the Columbia River and between the Hawaiian Islands and Monterey, but not along the coast. Towards the end of September, 1835, Nuttall embarked on a Hudson Bay Company vessel and sailed a second time for the Hawaiian Islands, thence proceeding to California.

Nuttall has himself left a note of his arrival at Monterey in 1836. He writes: "The early spring (March) had already spread out its varied carpet of flowers; all of them had to me the charm of novelty, and many were adorned with the most brilliant and varied hues. The forest trees were new to my

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<sup>2</sup> Thwaites, *Early Western Travels*, 21: 277.

<sup>3</sup> Thwaites, *Early Western Travels*, 21: 289.

view. A magpie, almost like that of Europe (but with a yellow bill) chattered from the branches of an oak with leaves like that of the holly (*Quercus agrifolia*). A thorny gooseberry,<sup>4</sup> forming a small tree, appeared clad with pendulous flowers as brilliant as those of a fuchsia. A new plane tree<sup>5</sup> spread its wide arms over the rivulets. A ceanothus,<sup>6</sup> attaining the magnitude of a small tree, loaded with sky-blue withered flowers, lay on the rude wood-pile, consigned to the menial office of affording fuel. Already the cheerful mocking bird sent forth his varied melody, with rapture imitating the novel notes of his neighboring songsters. The scenery was mountainous and varied, one vast wilderness, neglected and uncultivated; the very cattle appeared as wild as the bison of the prairies, and the prowling wolves (coyotes), well fed, were as tame as dogs and yelled familiarly through the village."<sup>7</sup>

Little has been known of Nuttall's movements in California. His botanical collections from this province of the Republic of Mexico, as well as those from the Rocky Mountains and the Columbia River, were very important, and with his notes, furnished the basis for numerous new species published by John Torrey and Asa Gray in their *Flora of North America*. From that work and from his herbarium labels we learn his botanizing stations in California. It was customary for travelers to journey from Monterey to Santa Barbara or southward by land with riding animals, stopping each night at one of the missions. It is certain that Nuttall made his way to Santa Barbara, not by land but by sea, and doubtless by sea the remainder of the journey to San Diego. Every one of Nuttall's specimens coming under my eye at New York, Harvard and Kew bears a ticket in his hand, with indication of the locality. The localities are the seaports, Monterey, Santa Barbara, San Pedro and San Diego. It is important to define his collecting grounds as closely as possible and it would seem also from the species collected that Nuttall's field work can be limited to the vicinity of the seaports. While in California he did not see *Quercus douglasii*, *Acer macrophyllum*, *Acer negundo* var. *californicum*, *Arbutus menziesii*, *Pseudotsuga taxifolia*, *Pinus sabiniana*, *Pinus Lambertiana*, *Abies bracteata* or *Fraxinus oregana*. All of these grow in Monterey county except possibly the last, while *Quercus douglasii* is exceedingly common on the old trail from Monterey to Mission San Antonio and Mission San Miguel.

That Nuttall went by sea part of the journey and probably all of it is evident from Richard Henry Dana's narrative, "Two Years Before the Mast." Dana speaks of Nuttall and says: "I

<sup>4</sup> *Ribes speciosum* Pursh.

<sup>5</sup> *Platanus racemosa* Nutt.

<sup>6</sup> *Ceanothus thyrsiflorus* Esch.

<sup>7</sup> Nuttall, *Silva*, ed. 2, 1: 10.

had left him quietly seated in the chair of Botany and Ornithology in Harvard University, and the next I saw of him, he was strolling about the San Diego beach, in a sailor's pea-jacket, with a wide straw-hat, and barefooted, with his trousers rolled up to his knees, picking up stones and shells."

"The second mate of the *Pilgrim*," continues Dana, "told me that they had an old gentleman aboard who knew me and came from the college that I had been in. He could not recollect his name but said he was a sort of oldish man, with white hair, and spent all his time in the bush, and along the beach, picking up flowers and shells and such truck, and had a dozen boxes and barrels full of them. I thought of everyone who was likely to be there but could fix upon no one; when, the next day, just as we were about to shove off from the beach, he came down to the boat in the rig I have described, with his shoes in his hand and his pockets full of specimens. I knew him at once, though I should hardly have been more surprised to have seen the Old South Steeple shoot up from the hide house." Nuttall had taken passage on the hide-ship *Pilgrim* at Monterey. He thus came slowly down the coast, examining the natural history of the country at each port of call, and finally boarding at San Diego the hide-ship *Alert* (on which Dana was a common sailor) shortly before she sailed, May 8, 1836, for Boston by way of Cape Horn.

Thomas Nuttall was born at Settle in Yorkshire, England, on January 5, 1786, and was apprenticed as a lad to his uncle, a printer in Liverpool. The print shop gave him the society of books and doubtless his greatest opportunity for self-education. He went to the United States in 1808 and became associated with the scientists at the Philadelphia Academy of Sciences. In 1809 to 1811 he accompanied John Bradbury on a trip into the Mandan country on the upper Missouri River and in 1819 he explored the Arkansaw territory and wrote a most readable journal of his travels in that region. In 1842 he returned to England to accept the estate of Nutgrove Hall bequeathed to him by his uncle.

In 1926, being in England, the writer made a journey to St. Helens and called at Eccleston upon Dixon Nuttall, a nephew of Thomas Nuttall, who as a child remembered talking with him. It was my hope to turn up, perhaps, some of Nuttall's journals, but all such material, taken to London shortly after his death, disappeared. I was received cordially by Mr. Nuttall of Eccleston. He stepped to the wall of his drawing room, took down a framed engraving of Nutgrove Hall as it was in Thomas Nuttall's day, and put it into the hands of one who was an utter stranger. I took the engraving into Liverpool and had it copied, returning it to its owner the next day. After visiting Thomas Nuttall's monument in Eccleston churchyard I went back to my regular work at the Kew Herbarium, filled with pleasant mem-



ories of that beautiful and quiet English countryside which is associated with the name of the botanist who of all the early botanical explorers in California makes the strongest appeal to our scientific understanding and to our intellectual sympathies.

## SOME OBSERVATIONS ON TWO SPECIES OF ARCTOSTAPHYLOS

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On the occasion of a visit to the type locality of *Arctostaphylos myrtifolia* and *Arctostaphylos viscida*, at Ione, Amador County, the writer was impressed by the generally unhealthy appearance of the chaparral growth on the low ridges east and southeast of the town, where it consists wholly of *Arctostaphylos* represented by the two above-mentioned species largely, and a very few individuals of *Arctostaphylos manzanita*. In these areas the ground is thickly strewn with bleached, dead stems and branches which show the peculiar flattened or ribbon-like form commonly associated with *Arctostaphylos myrtifolia*. The plants are exceedingly scraggly and distorted, and practically all bear many dead stems still attached to the root crown. Even the old living stems of most of the plants are deformed, bleached, and dead-looking at first glance. The absence of indications of fire damage led to a closer examination of these stems. Interestingly enough, it was found that the peculiar flattening of the stems is not at all confined to *Arctostaphylos myrtifolia*, but is quite general among the individuals of *Arctostaphylos viscida* in the region. Indeed, dead, detached stems of equal size of the two species can scarcely be distinguished. The following observations, then, apply generally to the phenomenon in both *Arctostaphylos myrtifolia* and *viscida*.

The ribbon-like development does not appear as though brought about by simple lateral compression of an otherwise normal stem, as would be inferred from the usual description, but, on the contrary, appears to be of a pathological nature. The dead stems appear to have suffered a gradual but complete decortication which seems to bear a direct relationship to the ribbon-like development. Old living stems show the peculiar flattening for a greater or smaller portion of their length mostly near their bases, and at first glance appear no different from the quite dead stems, although bearing green foliage. Closer examination of such members, however, reveals a narrow strip of living red bark along one edge only, while the greater portion of the surface is bleached and dead-looking. Generally the more pronounced the flat development, the narrower is the strip of living bark. The narrow strip of bark is underlain by a strip of